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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,954	01/14/2002	Hougong Wang	AMAT/5908/CPI/AL/ WIRE/PJ	4418
32588	7590	05/26/2004	EXAMINER	
APPLIED MATERIALS, INC. 2881 SCOTT BLVD. M/S 2061 SANTA CLARA, CA 95050			BAHTA, KIDEST	
			ART UNIT	PAPER NUMBER
			2125	4
DATE MAILED: 05/26/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/046,954

Applicant(s)

WANG ET AL.

Examiner

Kidest Bahta

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-64 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____.  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 55, 57-58, 60-61 and 63-64 are rejected under 35 U.S.C. 102(e) as being anticipated by White et al. (U.S. Patent 6,286,230).

Regarding claims 55 and 61, White discloses a first and second chamber (elements 10A and 10B), the first and second chamber each having one or more processing chambers attached thereto (Fig. 1), a load lock (elements 6 and 8) comprising a heating element and attached to the first chamber (elements 92 and 94) and two or more transition chambers which separate the first and second chamber (elements 28, 30, 32 and 34), the transition chamber each comprising a heating element disposed therein (Fig. 4, step 106).

Regarding claims 57-58, 60 and 63-64, White discloses the transition chamber each comprises two wafer holders (20a and 20B) and cooling plate (elements 96 and 98).

Regarding claims 56, 59 and 62, White discloses the transition chamber heating element comprises a lamp and resistive heater (column 5, lines 5-12).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-54, 56, 59, 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al. (U. S. Patent 6,286,230) in view of Stevens et al. (U.S. Patent 6,375,746).

Regarding claims 1 and 28, White discloses processing a wafer comprising: introducing a wafer into a first load lock (Fig. 4, step 100); transfer the wafer into a first transition chamber (Fig. 4, step 106).

White fails to specifically disclose partially preheating the wafer in the load lock and transition chamber.

However, Stevens discloses that partially preheating the wafer in the load lock and transition chamber (abstract).

It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify the teachings of White with the teachings of Stevens in order to help maximize throughput, increase efficiency, and reduce the likelihood of cross-contamination between chambers.

Regarding claims 2, 5-6, 29 and 32-33, White discloses transferring the wafer into a processing chamber (Fig. 4, step 104); and performing a processing step on the wafer in the processing chamber (Fig. 4, step 108); and transferring the wafer into a

second load lock (Fig. 4, step 112), wherein the first load lock is either the same or a different load lock than the first load lock (elements 6 and 8).

Regarding claims 3-4, 7, 9-10, 14, 30-31, 34 and 36- 37, 41 White discloses the wafer into a second transition chamber that is either the same transition chamber or a different transition chamber than the first transition chamber and cooling the wafer in the transition chamber after performing the processing step on the wafer load lock (column 10, lines 9-22).

Regarding claims 8, 19, 21, 22, 35, 46, 48-49 and 52, White discloses transferring the wafer from the second transition chamber after the processing step to another processing chamber and performing another processing step on the wafer, and then transferring the wafer into the second load lock (Fig. 4).

Regarding claims 17, 18, 20, 44, 45 and 47, White discloses the wafer is transferred by a first and second robot into the first transition chamber which is an isolated chamber (Fig. 9); and after the wafer in the first transition chamber, the wafer is transferred from the first transition chamber by a first and second robot into the processing chamber (Fig. 10 and Fig. 11).

Regarding claims 24, 25 and 50-54, White after partially preheating the wafer in the first load lock, the wafer is transferred by a first and second robot into the first transition chamber which is an un-isolated chamber containing a lamp (Fig. 5, lines 1-12); and after partially preheating the wafer in the first transition chamber, the wafer is transferred from the first transition chamber by a first and second robot into the processing chamber (Fig. 6).

Regarding claims 11-13, 15-16, 38-40 and 42-43, White discloses the transition chamber each comprises two wafer holders (20a and 20B) and cooling plate (elements 96 and 98) and the transition chamber heating element comprises a lamp and resistive heater (column 5, lines 5-12).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning communication or earlier communication from the examiner should be directed to Kidest Bahta, whose telephone number is (703) 308-6103. The examiner can normally be reached on M-F from 5:30 a.m. to 2:00 p.m. EST. If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached (703) 308-0538. Additionally, the fax phone for Art Unit 2125 is (703) 308-6306 or 308-6296. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Kidest Bahta

May 24, 2003

